

AUCKLAND ECONOMIC INSIGHTS SERIES

ADVANCED INDUSTRIES

AUCKLAND'S OPPORTUNITY

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AUCKLAND ECONOMIC INSIGHTS SERIES

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Presented by

**Auckland
Tourism, Events and
Economic Development**
An Auckland Council Organisation



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Foreword

The Auckland of 2016 is a new world city performing on a global stage, with Auckland's businesses competing internationally for export revenues, talent and investment. Leading this global competitiveness are Auckland's advanced industries, a diverse group of industries that play an increasingly important role in Auckland's economic performance.

Having studied the Brookings Institution research series,¹ which highlights the role of advanced industries in supporting the economic recovery in the United States since 2009, Auckland Tourism, Events and Economic Development (ATEED) – supported by the New Zealand Institute of Economic Research (NZIER) – have sought to apply the learnings from the Brookings approach and to examine the Auckland economy using a different lens.

This research has identified a key segment of the economy, advanced industries, which are defined based on their unique characteristics and differentiated because of the key role they play in Auckland's economic competitiveness and growth.

These dynamic and diverse industries make a large and increasingly important contribution to the regional economy. They are growing faster, are more productive, pay more, and contribute significantly to Auckland's international economic linkages. These industries have strong growth prospects and maximising these will be key to sustaining Auckland's broader economic growth, enhancing Auckland's competitiveness internationally, and supporting new employment opportunities for Aucklanders.

This publication is the first in a series of insight papers published by ATEED on Auckland's advanced industries. This paper seeks to summarise the role and importance of these industries and detail opportunities for ATEED, our partners, and other key stakeholders to support their growth.

A further three publications in this series seek to explore in more depth various opportunities within the advanced industry segment. These publications provide insights into the role of investment, technology and trade in realising these growth opportunities, leading to the enhanced competitiveness of the Auckland economy.

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¹ brookings.edu/series/advanced-industries-series

Auckland’s opportunity

Auckland is New Zealand’s most populous city and its commercial hub, and since 2000 has played an increasingly important role in New Zealand’s economic performance. Fuelled by inward migration and investment in infrastructure, Auckland is in the midst of a period of significant growth, having realised five consecutive years of GDP and employment growth since 2010.

Much like its growing multicultural population, the Auckland economy is diverse and has a different industrial structure to the rest of New Zealand. This economic and population growth, and the city’s cultural and economic diversity, means Auckland’s future development needs are, in places, much different to the rest of New Zealand.

A critical development priority for the region is ensuring key industries, in particular those which are productive and internationally competitive, are operating in a supportive environment that will help them grow, leading to increased employment opportunities and enhanced prosperity for the region.

What are these industries?

Auckland’s advanced industries make up a distinct segment of the Auckland economy, contributing a small but significant proportion of Auckland’s economic performance and output. In 2015, they contributed 12 per cent of Auckland’s GDP, 11 per cent of employment, and 12 per cent of total export revenue coming into Auckland.

Figure 1: Advanced industries’ contribution to the Auckland economy



Source: ATEED/NZIER (2015)

Advanced industries are defined using distinct characteristics, rather than the traditional approach of grouping industries which share a similar market or produce a similar product or service. This definition has been derived using best practice from the Brookings Institution, whose Advanced Industries series in the US takes a unique approach to identifying and prioritising key industries to support growth and competitiveness. This series uses “innovative research to inform practical strategy recommendations”, which aim to increase the competitiveness of these industries, leading to enhanced growth and prosperity.

The criteria used to define advanced industries in an Auckland context are detailed in Table 1.

Table 1: Characteristics of advanced industries

| Segment | Characteristics |
|---------------------|--|
| Advanced industries | <p>Characterised by high levels of research and development (R&D) and a heavy reliance on science, technology, engineering and mathematics (STEM) workers, advanced industries have been powering US economic growth and development since the global financial crisis. In order to define the advanced industries, ATEED worked with NZIER to identify criteria for the New Zealand economy, based on the Brookings Institution's criteria. The agreed criteria are:</p> <ul style="list-style-type: none"> • R&D spending per worker must fall in the 75th percentile or higher • the share of workers who have a university degree in STEM must be 1.5 times as high as the national average or higher • the industry must have more than 50 employees. |

Source: ATEED/NZIER/Brookings Institution

Brookings describes advanced industries in the US as the tech² sector at its broadest and most consequential. In Auckland, this extends beyond the core elements of the tech sector to include knowledge intensive industries.³ Auckland's advanced industries companies include established medical tech firms Fisher & Paykel Healthcare and Orion Health, and high-growth firms such as Pushpay, Plexure and Vend.

Why are they important?

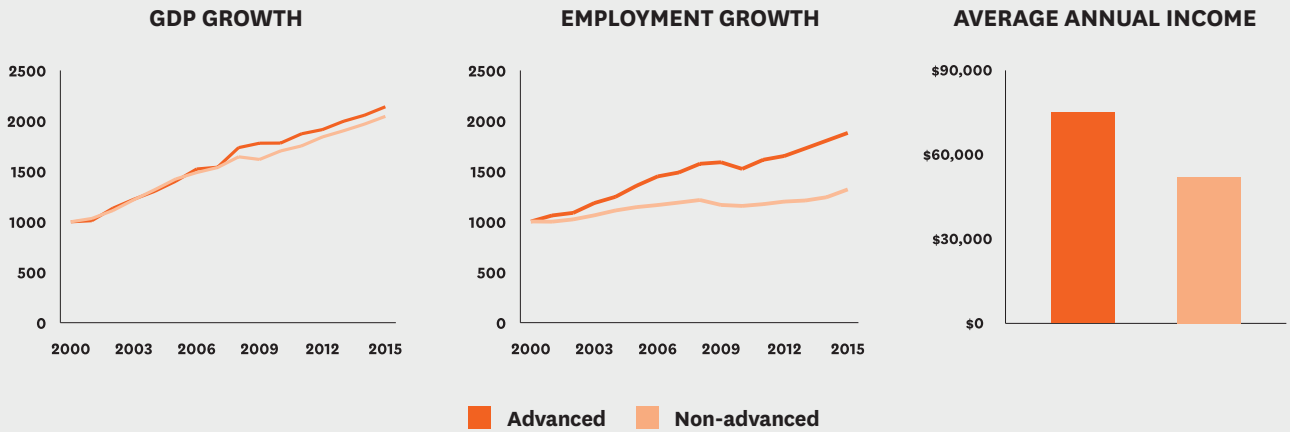
As identified in Figure 1, these industries contribute significantly to Auckland's economic output and provide a significant number of jobs for Aucklanders. However, it isn't volume alone that makes these industries important – these are the type of industries identified within the Government's Business Growth Agenda as those innovating, adding value, and bringing capital and jobs into New Zealand.⁴

² Defined as the Information and Communication Technology and High and Medium Tech Manufacturing Sectors - NZ Tech/NZIER (2015)

³ Sector which covers a broad and diverse range of services with varying degrees of knowledge intensity. It includes firms providing post, finance, insurance, professional, scientific and technical services – OECD (2006)

⁴ Business Growth Agenda: Chapter 1, Building Export Markets

Figure 2: Advanced industries – growing faster and earning more



Source: ATEED/NZIER

Auckland’s advanced industries have grown by 5.2 per cent per annum since 2000, compared to 4.9 per cent for non-advanced industries. They have been less impacted by the global financial crisis and emerged from this crisis stronger, which is an indicator of resilience and versatility. Their share of total Auckland jobs has risen from 8 per cent to 11 per cent, and realised an employment growth of 4.3 per cent per annum since 2000, compared to 1.9 per cent for non-advanced industries. In total, 37,000 new jobs have been created within the advanced industries since 2000 and those employed in advanced industries earn on average \$27,000 more per annum than those in non-advanced, a significant wage premium. Advanced industries’ export growth has marginally outperformed non-advanced industries since 2009, and these exports are services and value-added goods, adding diversity to a commodity-dominated export portfolio.

This growth has occurred in challenging global conditions, again highlighting the strengths of the companies within this segment. Advanced industries cluster together, with 80 per cent located within 2km of Auckland’s CBD, realising the benefits of agglomeration, as well as the close proximity to support services in the CBD and key physical and economic infrastructure such as the Auckland port, tertiary institutions and intra- and inter-city transports links.

As highlighted on page 3, advanced industries are made up of the strongest components of the tech and knowledge intensive services sectors. Knowledge intensive services have played a prominent role in the performance of advanced industries since 2000. The second paper in this series further examines the role of the knowledge intensive services sector in Auckland.

What are the opportunities?

Focusing efforts to assist these industries grow will generate significant returns for the Auckland economy. Growing the number of companies in these industries and their contribution to economic output will achieve enhanced prosperity for the region. Examples of the benefits that could be realised include the below.

- As presented in Figure 2, advanced industries offer higher wages and new job opportunities. Growing this segment will stimulate employment growth and grow the average Auckland income. Creating 10,000 new jobs across this segment would result in \$270 million more in direct additional income for Aucklanders than if these jobs were created in the non-advanced segment.
- Advanced industries are clustered together and drive higher productivity. An extra 10,000 jobs in this sector would add almost \$250 million more in GDP to the Auckland economy than if created in non-advanced industries.
- Goods and services provided by advanced industries are in demand. Businesses within these segments target wealthy international markets, provide diversification, and reduce reliance on domestic growth and commodity exports. Capitalising on these international trading relationships and growing exports across this segment will drive growth locally.
- There are clear growth opportunities ahead for individual advanced industries, in particular in the knowledge intensive services sector. This sector attracts a significant proportion of the foreign direct investment into Auckland, and high-performing knowledge intensive services industries such as engineering and architectural consulting services are becoming increasingly competitive in international markets.

How does Auckland capitalise on this opportunity?

Growing Auckland's advanced industries will require a multi-pronged approach that includes the actions below.

- Growing the number of companies within advanced industries, by attracting high-quality foreign direct investment and research and development activities into Auckland. There is a specific opportunity within the knowledge intensive services sector, which is examined in more detail in the second paper in this series.
- Providing supporting infrastructure for high-growth-potential firms in advanced industries, in particular those firms providing disruptive technology solutions that will be sought after internationally. In the third paper in this series, ATEED looks at a number of the key technology platforms in which Auckland has a comparative advantage and can position itself as a world leader and/or early mover.
- Helping address skills shortages and labour market supply issues to secure a talent pipeline for advanced industries. This is particularly relevant to those industries within the Auckland tech sector where a global talent dearth is evident and forecast to continue.
- Highlighting our key strengths within advanced industries, as part of a global narrative focused on targeting international markets where the opportunity is greatest.
- Supporting the growth of international trading relationships to allow companies in advanced industries to increase their export revenues. ATEED further examines the trade opportunity in the final paper in this series.

GET IN TOUCH

ATEED and NZIER welcome comment and feedback on the Economic Insights Series.

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**Auckland
Tourism, Events and
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An Auckland Council Organisation



ABOUT ATEED

Auckland Tourism, Events and Economic Development (ATEED) is Auckland's economic growth agency, and an Auckland Council-controlled organisation. It facilitates business and industry sector development, investment attraction, tourism and major events activities, and markets Auckland as a destination.

ATEED works with public and private sector partners to drive the growth of Auckland's skilled workforce, support Auckland's advanced industries to increase trade and attract investment, and promote a culture of innovation and entrepreneurship through initiatives like GridAKL, Auckland's innovation precinct at Wynyard Quarter.